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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,000	05/09/2007	Orhan Ustun	0115-062668	7851

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EXAMINER

JETTON, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3748

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,000	Applicant(s) USTUN, ORHAN	
	Examiner CHRISTOPHER JETTON	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/14/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the deforming and dehumidifying reservoir must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 14 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification provides no description of the defoaming or dehumidifying reservoir.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 11-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by **Pierce (US 4,739,620)**.

Regarding claims 9 and 15, Pierce discloses solar energy power system with a solar panel (11) connected to a collector tank (16). The pressured gas flows from the solar boiler flows through tube (15) to collector tank (16) and then flows through conduit (17) to the energy conversion system (Fig 2 Col 2 Lines 28-33).

Regarding claim 11, Pierce discloses the energy conversion system is a turbine (300) (Fig 2).

Regarding claim 12, Pierce discloses the energy conversion system includes a piston (52) and cylinder (53) (Fig 1).

Regarding claim 13, Pierce discloses the pressured gas entering through tube (17) turns the turbine at high speed in the course of expanding, following which the gas enters conduit (18) and moves on to condenser (19) retaining sufficient pressure to assure condensation, following which the resulting liquid is moved by rotary feed pump (320) through tube (12) back to solar boiler (11) for its next cycle (Fig 2 Col 5 Lines 40-46).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10, 17-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pierce (US 4,739,620) in view Girone (US 4,299,199)**.

Regarding claims 10 and 21, Pierce fails to disclose a plurality of heat input and accumulator modules connected to a distribution unit.

However, Girone teaches a plurality of solar collectors (10) connected in parallel with valves (22, 24) positioned to control flow through individual collectors (Fig 1).

It would have been obvious to one of ordinary skill in the art to modify Pierce's invention with the solar collectors taught by Girone since doing so would provide more control of the flow of working fluid through the power system. It also would have been obvious to provide accumulators for each of the solar collectors to control fluctuations in input and output pressures.

Regarding claim 17, Pierce discloses the energy conversion system is a turbine (300) (Fig 2).

Regarding claim 18, Pierce discloses the energy conversion system includes a piston (52) and cylinder (53) (Fig 1).

Regarding claim 19, Pierce discloses the pressured gas entering through tube (17) turns the turbine at high speed in the course of expanding, following which the gas enters conduit (18) and moves on to condenser (19) retaining sufficient pressure to assure condensation, following which the resulting liquid is moved by rotary feed pump (320) through tube (12) back to solar boiler (11) for its next cycle (Fig 2 Col 5 Lines 40-46).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Pierce (4,739,620) in view Nicodemus (US 6,233,938 B1)**.

Regarding claim 14, Pierce fails to disclose a defoaming and dehumidifying reservoir between the heat exchanger and circulation pump.

However, Nicodemus teaches a deaerator (24) positioned between condenser (22) and boiler feed pump (26) (Fig 2 Col 7 Lines 59-65).

It would have been obvious to one of ordinary skill in the art to modify Pierce's invention with the deaerator taught by Nicodemus since doing so would reduce the corrosion damage to internal surfaces of the system.

Claims 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pierce (4,739,620) in view Eakman (US 4,366,674)**.

Regarding claims 16 and 22, Pierce fails to disclose the heat-input transmitting device is an internal combustion engine.

However, Eakman teaches an internal combustion engine with a Rankine bottoming cycle that uses waste heat from the exhaust and cooling circuit to produce a working fluid (Fig 1).

It would have been obvious to one of ordinary skill in the art to modify Pierce's invention with the internal combustion engine taught by Eakman. A large amount of energy from internal combustion engines is lost as latent heat and any system used to capture this heat reduces waste heat to the surroundings.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over the modified **Pierce as applied to claim 19 above, and further in view of Nicodemus (US 6,233,938 B1)**.

Regarding claim 20, Pierce fails to disclose a defoaming and dehumidifying reservoir between the heat exchanger and circulation pump.

However, Nicodemus teaches a deaerator (24) positioned between condenser (22) and boiler feed pump (26) (Fig 2 Col 7 Lines 59-65).

It would have been obvious to one of ordinary skill in the art to modify Pierce's invention, as viewed by Girone, with the deaerator taught by Nicodemus since doing so would reduce the corrosion damage to internal surfaces of the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER JETTON whose telephone number is (571)270-7108. The examiner can normally be reached on Monday through Friday, 7:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748

/CHRISTOPHER JETTON/
Examiner, Art Unit 3748